File 350:Derwent WPIX 1963-2004/UD,UM &UP=200482
File 348:EUROPEAN PATENTS 1978-2004/Dec W03
File 349:PCT FULLTEXT 1979-2002/UB=20041230,UT=20041223

Set	Items	Description
S1	57	AU='URRY D' OR AU='URRY D W' OR AU='URRY DAN W'
S2	289853	**TISSUE**? ?
S3	297443	**AUGMENT**? OR **RESTOR**?
S4	**9**	**S1 AND S2 AND S3**
S5	205103	**PEPTIDE**?
S6	42	(S1 AND S5) NOT S4
S7	**23**	**S2:S3 AND S6**
S8	660791	**INJECT**?
S9	0	(S1 AND S8) NOT (S4 OR S7)

4/26,TI/3 (Item 2 from file: 348)
DIALOG(R)File 348:EUROPEAN PATENTS
(c) 2004 European Patent Office. All rts. reserv.
00383791
STIMULATION OF CHEMOTAXIS BY CHEMOTACTIC **PEPTIDE**S.

4/26,TI/4 (Item 3 from file: 348)
DIALOG(R)File 348:EUROPEAN PATENTS
(c) 2004 European Patent Office. All rts. reserv.
00383602
ELASTOMERIC POLY**PEPTIDE**S AS VASCULAR PROSTHETIC MATERIALS.

4/26,TI/6 (Item 5 from file: 348)
DIALOG(R)File 348:EUROPEAN PATENTS
(c) 2004 European Patent Office. All rts. reserv.
00280493
SEGMENTED POLY**PEPTIDE** BIOELEASTOMERS TO MODULATE ELASTIC MODULUS.

4/26,TI/8 (Item 2 from file: 349)
DIALOG(R)File 349:PCT FULLTEXT
(c) 2004 WIPO/Univentio. All rts. reserv.
00163716
ELASTOMERIC POLY**PEPTIDE**S AS VASCULAR PROSTHETIC MATERIALS

4/26,TI/9 (Item 3 from file: 349)
DIALOG(R)File 349:PCT FULLTEXT
(c) 2004 WIPO/Univentio. All rts. reserv.
00141367
SEGMENTED POLY**PEPTIDE** BIOELEASTOMERS TO MODULATE ELASTIC MODULUS

4/34/1 (Item 1 from file: 350)
DIALOG(R)File 350:Derwent WPIX
(c) 2004 Thomson Derwent. All rts. reserv.
012734370
WPI Acc No: 1999-540487/199945
Augmentation or restoration of mammalian tissue by injecting solution of peptide polymer, used for soft or hard tissue reconstruction, especially of intervertebral disks
Patent Assignee: **BIOELASTIC**S RES LTD (BIOE-N); URRY D W (URRY-I)
Inventor: GLAZER P A; PARKER T M; URRY D W
Number of Countries: 085 Number of Patents: 008
Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week
WO 9943271	A1	19990902	WO 99US4440	A	19990226	199945 B
AU 9927985	A	19990915	AU 9927985	A	19990226	200004
EP 1056413	A1	20001206	EP 99908590	A	19990226	200064
			WO 99US4440	A	19990226	
JP 2002507437	W	20020312	WO 99US4440	A	19990226	200220
			JP 2000533072	A	19990226	
US 20020038150	A1	20020328	US 9876297	P	19980227	200225
			US 9887155	P	19980529	
			US 99258723	A	19990226	
			US 2001837969	A	20010418	
US 20020116069	A1	20020822	US 9876297	P	19980227	200258
			US 9887155	P	19980529	
			US 99258723	A	19990226	
			US 2001841321	A	20010423	
US 6533819	B1	20030318	US 9876297	P	19980227	200322
			US 9887155	P	19980529	
			US 99258723	A	19990226	
			US 2001841334	A	20010423	
US 6699294	B2	20040302	US 9876297	P	19980227	200417
			US 9887155	P	19980529	
			US 99258723	A	19990226	
			US 2001837969	A	20010418	

Priority Applications (No Type Date): US 9887155 P 19980529; US 9876297 P 19980227; US 99258723 A 19990226; US 2001837969 A 20010418; US 2001841321 A 20010423; US 2001841334 A 20010423

Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
WO 9943271	A1	E	132	A61F-002/02	
Designated States (National): AL AM AT AU AZ BA BB BG BR BY CA CH CN CU CZ DE DK EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MD MG MK MN MW MX NO NZ PL PT RO RU SD SE SG SI SK SL TJ TM TR TT UA UG UZ VN YU ZW					
Designated States (Regional): AT BE CH CY DE DK EA ES FI FR GB GH GM GR IE IT KE LS LU MC MW NL OA PT SD SE SL SZ UG ZW					
AU 9927985	A			A61F-002/02	Based on patent WO 9943271
EP 1056413	A1	E		A61F-002/02	Based on patent WO 9943271
Designated States (Regional): AT BE CH CY DE DK ES FI FR GB GR IE IT LI LU MC NL PT SE					
JP 2002507437	W		147	A61F-002/02	Based on patent WO 9943271
US 20020038150	A1			A61F-002/02	Provisional application US 9876297 Provisional application US 9887155 Div ex application US 99258723
US 20020116069	A1			A61F-002/02	Provisional application US 9876297 Provisional application US 9887155 Cont of application US 99258723
US 6533819	B1			A61F-002/44	Provisional application US 9876297 Provisional application US 9887155 Cont of application US 99258723
US 6699294	B2			A61F-002/02	Provisional application US 9876297 Provisional application US 9887155 Div ex application US 99258723

Abstract (Basic): WO 9943271 A1

NOVELTY - **Tissue augmentation / restoration** in mammal is by **injection** at **tissue** site of **aqueous polymer** (I) **solution** at **coacervate** concentration in **water** absence. (I) has **repeated monomer**

units (MU) of nona, penta or tetra-**peptides**. MU form series of **beta-turns** separated by **suspended** dynamic **bridging** segments. The inverse transition **temperature** (Tt) of (I) is less than **injection** site **tissue temperature** (Ts).

DETAILED DESCRIPTION - INDEPENDENT CLAIMS are also included for the following:

(1) kits for **tissue augmentation** comprising a **syringe** (in a sterile wrapper) containing (I); and

(2) **protein**-based **polymers** for use as (I), having any one of about 30 sequences given in the specification (of 30 to 2003 amino acids).

ACTIVITY - Antitumor; contraceptive.

MECHANISM OF ACTION - None given.

USE - (I) is **injected** at periurethral or subdermal sites (for treatment of urinary incontinence or for cosmetic purposes), or into hard or soft **tissue** , e.g. for repair of traumatic injury. A specific application is **restoration** of intervertebral disks (IVD). (I) the composition for **injection** may also be used for delivery of cells; to block tumor-associated blood vessels; in tumor therapy and for contraceptive/infertility treatments (not claimed).

ADVANTAGE - (I) can be **implanted** under a variety of surgical conditions; is easily matched to the compliance of particular **tissues** ; is biologically inert (or degrades to harmless products); can serve as **carrier** for active agents; is sterilizable; and is not significantly immunogenic or antigenic. It may be designed to stimulate cell adhesion or growth. Unlike collagen, **solutions** of (I) do not require additional **water** (avoiding problems of shrinkage) and do not promote formation of scar **tissue** , Since (I) have a well-defined structure, they can be made with selected physical properties and when **injected** provide long-lasting **tissue augmentation** .

pp; 132 DwgNo 0/10

Technology Focus:

TECHNOLOGY FOCUS - PHARMACEUTICALS - Preferred Composition: At **coacervate** concentration, the **solution** of (I) has viscosity 1-100000 mP. (I) is formulated with a **liquid carrier** that may include cells or one or more factors that aid healing and regeneration of native **tissue** , e.g. heparin, epidermal growth factor, insulin-like growth factors, interleukins.

INSTRUMENTATION AND TESTING - Preferred Kits: (I) is present in the **syringe** as an **aqueous solution** at **coacervate** concentration, optionally also containing other biologically active factors. For reconstruction of IVD, a gauge 13-19 **syringe** is used.

ORGANIC CHEMISTRY - Preparation: MU can be synthesized by usual chemical methods (or by microbial fermentation) , the crosslinked conventionally to **polymers**.

BIOTECHNOLOGY - Preferred **Proteins**: (I) are crosslinked but extrudible and are:

(i) **copolymers** formed from MU and a second **peptide** (II) of 1-100, preferably 1-20, amino acids;

(ii) a block **copolymer** of at least two MU, particularly tetra- or penta-**peptide**, or

(iii) an elastomeric poly(tetra- or penta-)**peptide**.

In (iii), specified MU include VPGG, GGVP, GGFP, VPGVG, GVGVP, GVGFP etc. In (ii), (II) comprises:

(1) the cell-attachment sequence GRGDSP;

(2) one of the **units** GVGAP or VGVAPG, or

(3) the cell-attachment sequence from the type III domain of

fibronectin, vitronectin, tenascin, titan or other cell-attachment **proteins**.

For use in reconstruction of intervertebral disks (IVD), (I) contains at least one GVGIP or at least one MU that contains an aromatic residue, particularly Phe.

Preferred Process: (I) is **injected** together with a growth factor, and an osteogenic factor may also be **injected** at the site. Most preferably the site of **injection** is the depleted nucleus pulposus of an IVD and the **coacervate** has elastic modulus at the site of 50000-5 million N/square m.

Preparation: (I) can be made by expressing synthetic polynucleotides in usual vector/host systems

Extension Abstract:

EXAMPLE - Oligonucleotides (sequences reproduced) were annealed and extended to generate a 180 bp fragment that encoded the **peptide unit** ((GGVP)3GGFP)3 The fragments were treated with DNA ligase to join them head-to-tail, forming concatemers that were inserted into a pET plasmid for expression in Escherichia coli. Transformed cells were cultured and the resulting **polymer** isolated from the cell lysate by exploiting the fact that it is soluble at 4degreesC but forms large aggregates by **coacervation** at 37degreesC.

Derwent Class: B04; D22; P32
International Patent Class (Main): A61F-002/02; A61F-002/44
International Patent Class (Additional): A61F-002/00; A61F-002/28; A61F-002/56; A61K-009/14; A61K-035/12; A61K-038/00; A61P-013/00; A61P-043/00; C08F-038/00; C08F-283/00; C08L-001/00; D02G-003/00

4/3,AB/2 (Item 1 from file: 348)
DIALOG(R)File 348:EUROPEAN PATENTS

01086086
INJECTABLE IMPLANTS FOR TISSUE AUGMENTATION AND RESTORATION
INJIZIERBARE **IMPLANTATE** ZUR VERGROSSERUNG UND WIEDERHERSTELLUNG VON GEWEBE
IMPLANTS INJECTABLES DESTINES A L'ACCROISSEMENT ET LA RESTAURATION DE TISSUS
PATENT ASSIGNEE:
BIOELASTICS RESEARCH, LTD., (1350152), 2800 Milan Court Suite 386, Birmingham, Alabama 35211-6912, (US), (Applicant designated States: all)
INVENTOR:
URRY, Dan, W. , 2423 Vestaria Drive, Birmingham, AL 35216, (US)
PARKER, Timothy, M., 3735 Pleasant Valley Road, Odenville, AL 35120, (US)
GLAZER, Paul, A., 20 Chapel Street No.B709, Brookline, MA 02446, (US
LEGAL REPRESENTATIVE:
Harrison, David Christopher et al (31532), MEWBURN ELLIS York House 23 Kingsway, London WC2B 6HP, (GB)
PATENT (CC, No, Kind, Date): EP 1056413 A1 001206 (Basic)
WO 9943271 990902
APPLICATION (CC, No, Date): EP 99908590 990226; WO 99US4440 990226
PRIORITY (CC, No, Date): US 76297 980227; US 87155 980529
DESIGNATED STATES: AT; BE; CH; CY; DE; DK; ES; FI; FR; GB; GR; IE; IT; LI; LU; MC; NL; PT; SE
INTERNATIONAL PATENT CLASS: A61F-002/02; A61F-002/56; A61K-009/14; A61K-035/12; A61K-038/00; C08F-038/00; C08F-283/00; D02G-003/00
NOTE: No A-document published by EPO
LANGUAGE (Publication,Procedural,Application): English; English; English

4/3,AB/5 (Item 4 from file: 348)
DIALOG(R)File 348:EUROPEAN PATENTS

00282255
TEMPERATURE CORRELATED FORCE AND STRUCTURE DEVELOPMENT OF ELASTIN POLYTETRA**PEPTIDES** AND POLYPENTA**PEPTIDES**.
TEMPERATURABHANGIGE KRAFT- UND STRUKTURENTWICKLUNG VON ELASTIN POLYTETRA**PEPTIDEN** UND POLYPENTA**PEPTIDEN**.
POLYTETRA**PEPTIDES** ET POLYPENTA**PEPTIDES** D'ELASTINE POUR LE DEVELOPPEMENT D'UNE STRUCTURE ET D'UNE FORCE EN FONCTION DE LA **TEMPERATURE**.
PATENT ASSIGNEE:
UAB RESEARCH FOUNDATION, (978763), P.O. Box 1000, Birmingham Alabama 35294, (US), (applicant designated states: AT;BE;CH;DE;FR;GB;IT;LI;LU;NL;SE)
INVENTOR:
URRY, Dan, W. , 2423 Vestavia Drive, Birmingham, AL 35216, (US)
PRASAD, Kari, U., 310 Cedar Path Drive, Birmingham, AL 35209, (US
LEGAL REPRESENTATIVE:
Giambrocono, Alfonso, Dr. Ing. (40521), Ing. A. Giambrocono & C. S.r.l. Via Rosolino Pilo 19/B, I-20129 Milano, (IT)
PATENT (CC, No, Kind, Date): EP 321496 A1 890628 (Basic)
EP 321496 A1 900207
EP 321496 B1 940330
WO 8801623 880310
APPLICATION (CC, No, Date): EP 87905993 870827; WO 87US2141 870827
PRIORITY (CC, No, Date): US 900895 860827
DESIGNATED STATES: AT; BE; CH; DE; FR; GB; IT; LI; LU; NL; SE
INTERNATIONAL PATENT CLASS: C07K-013/00; C07K-015/00; C07K-007/06; A61K-037/00; A61F-002/02; A61F-002/06; C08G-069/10;
NOTE: No A-document published by EPO
LANGUAGE (Publication,Procedural,Application): English; English; English
FULLTEXT AVAILABILITY:

Available Text	Language	Update	Word Count
CLAIMS B	(English)	EPBBF1	2078
CLAIMS B	(German)	EPBBF1	2009
CLAIMS B	(French)	EPBBF1	2354
SPEC B	(English)	EPBBF1	15071
Total word count - document A			0
Total word count - document B			21512
Total word count - documents A + B			21512

4/3,AB/7 (Item 1 from file: 349)
DIALOG(R)File 349:PCT FULLTEXT

00511919
INJECTABLE IMPLANTS FOR **TISSUE AUGMENTATION** AND **RESTORATION**
IMPLANTS INJECTABLES DESTINES A L'ACCROISSEMENT ET LA RESTAURATION DE TISSUS
Patent Applicant/Assignee:
BIOELASTICS RESEARCH LTD,
Inventor(s):
URRY Dan W ,
PARKER Timothy M,
GLAZER Paul A
Patent and Priority Information (Country, Number, Date):
Patent: WO 9943271 A1 19990902

Application: WO 99US4440 19990226 (PCT/WO US9904440)
Priority Application: US 9876297 19980227; US 9887155 19980529
Designated States:
(Protection type is "patent" unless otherwise stated - for applications prior to 2004)
AL AM AT AU AZ BA BB BG BR BY CA CH CN CU CZ DE DK EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MD MG MK MN MW MX NO NZ PL PT RO RU SD SE SG SI SK SL TJ TM TR TT UA UG UZ VN YU ZW GH GM KE LS MW SD SL SZ UG ZW AM AZ BY KG KZ MD RU TJ TM AT BE CH CY DE DK ES FI FR GB GR IE IT LU MC NL PT SE BF BJ CF CG CI CM GA GN GW ML MR NE SN TD TG
Publication Language: English
Fulltext Word Count: 23113
English Abstract

A method for **tissue augmentation** in a mammal is provided comprising **injecting** a **polymer** at a **tissue** site in need of **augmentation** and having a **tissue temperature**, the **polymer** comprising **repeating peptide monomeric units** selected from the group consisting of nona**peptide**, penta**peptide** and tetra**peptide monomeric units**, wherein the **monomeric units** form a series of **beta-turns** separated by dynamic **bridging** segments **suspended** between the **beta-turns**, wherein the **polymer** has an inverse **temperature** transition Tt less than the **tissue temperature**, and wherein the **polymer** is **injected** as a **water solution** at **coacervate** concentration in the substantial absence of additional **water**. A kit containing the **injectable bioelastic polymer** and a **syringe** is also provided.

7/26,TI/1 (Item 1 from file: 350)
DIALOG(R)File 350:Derwent WPIX
(c) 2004 Thomson Derwent. All rts. reserv.
011385453
WPI Acc No: 1997-363360/199733
Bioelastic polymer responsive to electrical energy - comprising **beta turn** and residue(s) with side chain that changes polarity or hydrophobicity in response to electrical energy change, useful for mechanical work or light stimulated contraction

7/26,TI/2 (Item 2 from file: 350)
DIALOG(R)File 350:Derwent WPIX
(c) 2004 Thomson Derwent. All rts. reserv.
010802884
WPI Acc No: 1996-299837/199630
Bio-elastomer comprising at least 5 **repeating** tetra- or penta**peptide units** - useful in healing of wound due to e.g. surgery and as intimal lining of vascular prosthesis, obtainable as sheets, gels, foams and powders

7/26,TI/3 (Item 3 from file: 350)
DIALOG(R)File 350:Derwent WPIX
(c) 2004 Thomson Derwent. All rts. reserv.
010762134
WPI Acc No: 1996-259089/199626
Preventing adhesion of biological materials in vivo - by forming protective layer of bioelastomer contg. tetra- or penta**peptide monomer units** e.g. at wound repair site

7/26,TI/4 (Item 4 from file: 350)

DIALOG(R)File 350:Derwent WPIX
(c) 2004 Thomson Derwent. All rts. reserv.
009254308
WPI Acc No: 1992-381725/199246
Super-absorbent material incorporating **polymer** undergoing inverse temp. transition - esp. **bioelastic** poly**peptide** (s) for controllably absorbing body fluids

7/26,TI/5 (Item 5 from file: 350)
DIALOG(R)File 350:Derwent WPIX
(c) 2004 Thomson Derwent. All rts. reserv.
008074631
WPI Acc No: 1989-339743/198946
Elastomeric poly**peptide** material - a useful for preventing adhesion between **tissues** and wound repair sites

7/26,TI/9 (Item 9 from file: 350)
DIALOG(R)File 350:Derwent WPIX
(c) 2004 Thomson Derwent. All rts. reserv.
004728751
WPI Acc No: 1986-232093/198635
Prosthetic device, e.g. artificial blood vessel or skin - having chemo-tactic **peptide** in its surface to enhance invasion of elastic fibre-forming fibroblasts

7/26,TI/10 (Item 10 from file: 350)
DIALOG(R)File 350:Derwent WPIX
(c) 2004 Thomson Derwent. All rts. reserv.
004646502
WPI Acc No: 1986-149845/198623
Synthetic elastomeric **copolymers** - useful as prostheses for repair of ligaments, tendons and blood vessel walls

7/26,TI/11 (Item 1 from file: 348)
DIALOG(R)File 348:EUROPEAN PATENTS
(c) 2004 European Patent Office. All rts. reserv.
00867885
POLYMERS RESPONSIVE TO ELECTRICAL ENERGY

7/26,TI/12 (Item 2 from file: 348)
DIALOG(R)File 348:EUROPEAN PATENTS
(c) 2004 European Patent Office. All rts. reserv.
00584316
SUPERABSORBENT MATERIALS AND USES THEREOF

7/26,TI/13 (Item 3 from file: 348)
DIALOG(R)File 348:EUROPEAN PATENTS
(c) 2004 European Patent Office. All rts. reserv.
00482000
Bioelastomeric drug delivery system.

7/26,TI/14 (Item 4 from file: 348)
DIALOG(R)File 348:EUROPEAN PATENTS
(c) 2004 European Patent Office. All rts. reserv.
00383606
BIOELASTOMERIC MATERIALS SUITABLE FOR THE PROTECTION OF WOUND REPAIR SITES

FROM THE OCCURRENCE OF ADHESIONS.

7/26,TI/15 (Item 1 from file: 349)
DIALOG(R)File 349:PCT FULLTEXT
(c) 2004 WIPO/Univentio. All rts. reserv.
00817612
ACOUSTIC ABSORPTION **POLYMER**S AND THEIR METHODS OF USE

7/26,TI/16 (Item 2 from file: 349)
DIALOG(R)File 349:PCT FULLTEXT
(c) 2004 WIPO/Univentio. All rts. reserv.
00382986
POLYMERS RESPONSIVE TO ELECTRICAL ENERGY

7/26,TI/17 (Item 3 from file: 349)
DIALOG(R)File 349:PCT FULLTEXT
(c) 2004 WIPO/Univentio. All rts. reserv.
00349893
A SIMPLE METHOD FOR THE PURIFICATION OF A **BIOELASTIC POLYMER**

7/26,TI/18 (Item 4 from file: 349)
DIALOG(R)File 349:PCT FULLTEXT
(c) 2004 WIPO/Univentio. All rts. reserv.
00221942
POLYMERS CAPABLE OF BAROMECHANICAL AND BAROCHEMICAL TRANSDUCTION

7/26,TI/19 (Item 5 from file: 349)
DIALOG(R)File 349:PCT FULLTEXT
(c) 2004 WIPO/Univentio. All rts. reserv.
00220842
SUPERABSORBENT MATERIALS AND USES THEREOF

7/26,TI/20 (Item 6 from file: 349)
DIALOG(R)File 349:PCT FULLTEXT
(c) 2004 WIPO/Univentio. All rts. reserv.
00163715
BIOELASTOMERIC MATERIALS SUITABLE FOR THE PROTECTION OF WOUND REPAIR SITES FROM THE OCCURRENCE OF ADHESIONS

7/26,TI/21 (Item 7 from file: 349)
DIALOG(R)File 349:PCT FULLTEXT
(c) 2004 WIPO/Univentio. All rts. reserv.
00163714
STIMULATION OF CHEMOTAXIS BY CHEMOTACTIC **PEPTIDE**S

7/26,TI/22 (Item 8 from file: 349)
DIALOG(R)File 349:PCT FULLTEXT
(c) 2004 WIPO/Univentio. All rts. reserv.
00153366
THE DEVELOPMENT OF ENTROPIC MOTIVE FORCE IN **PROTEIN** SYSTEMS AND MOLECULAR MACHINES USING THE SAME

7/26,TI/23 (Item 9 from file: 349)
DIALOG(R)File 349:PCT FULLTEXT
(c) 2004 WIPO/Univentio. All rts. reserv.
00144739

TEMPERATURE CORRELATED FORCE AND STRUCTURE DEVELOPMENT OF ELASTIN POLYTETRA**PEPTIDES** AND POLYPENTA**PEPTIDES**

7/7/6 (Item 6 from file: 350)
DIALOG(R)File 350:Derwent WPIX

008074630
WPI Acc No: 1989-339742/198946
Prosthetic device with surface having chemo-tactic **peptide** - to encourage migration of endothelial cells and/or fibroblasts and incorporation into regenerating **tissues**
Patent Assignee: UAB RES FOUND (UABR-N); UAB RES FOUNDATION (UABR-N)
Inventor: LONG M; URRY D W
Number of Countries: 013 Number of Patents: 007
Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week	
WO 8910098	A	19891102				198946	B
EP 366777	A	19900509	EP 89905999	A	19890405	199019	
US 4976734	A	19901211	US 88184147	A	19880421	199101	
JP 3501574	W	19910411	JP 89505813	A	19890405	199121	
EP 366777	B1	19940720	EP 89905999	A	19890405	199428	
			WO 89US1321	A	19890405		
DE 68916900	E	19940825	DE 616900	A	19890405	199433	
			EP 89905999	A	19890405		
			WO 89US1321	A	19890405		
EP 366777	A4	19910116	EP 89905999	A	19890000	199515	

Priority Applications (No Type Date): US 88184147 A 19880421; US 85793225 A 19851031; US 8713343 A 19870211
Cited Patents: US 4578079; US 4589881; US 4605413; US 4693718; 2.Jnl.Ref
Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
WO 8910098	A	E			
Designated States (National): JP					
Designated States (Regional): AT BE CH DE FR GB IT LI LU NL SE					
EP 366777	A				
Designated States (Regional): AT BE CH DE FR GB IT LI LU NL SE					
EP 366777	B1	E	16	A61F-002/02	Based on patent WO 8910098
Designated States (Regional): AT BE CH DE FR GB IT LI LU NL SE					
DE 68916900	E			A61F-002/02	Based on patent EP 366777
					Based on patent WO 8910098

Abstract (Basic): WO 8910098 A

Prosthetic device has a surface into which is incorporated a chemotactic **peptide** of formula Bi-X-(AGVPGLGVG)n-(AGVPGFGVG)m -Y-B2 (I) where A=Ala; P=Pro; G=Gly; V=Val; F=Phe; L=Leu; B1=H or biocompatible N-terminal gp.; B2=OH, OB3 or biocompatible C-terminal gp.; B3=non-toxic metal ion; X=GVPGFGVG,- GVPGLGVG, VPGFGVG, VPGLGVG, PGFGVG, PGLGVG, GFGVG, GLGVG, FGVG, LGVG, GVG, VG, G or a covalent bond; Y=AGVPGFGV, AGVPGLGV, AGVPGFG, AGVPGLG, AGVPGF, AGVPGL, AGVPG, AGVP, AGV, AG, A or a covalent bond; n=0-50; m=0-50; if when m=n=O, X and Y are selected so that the chemotactic **peptide** has at least 3 aminoacid residues in the X and Y positions combined.

USE/ADVANTAGE - Useful for prosthese for incorporation into regenerating **tissue** , e.g. artificial veins, arteries or skin. The **peptide** (I) increases the invasion of endothelial cells and/or fibroblasts. (55pp Dwg.No.0/8)

Abstract (Equivalent): EP 366777 B

A method of stimulating chemotaxis toward a prosthetic device, which comprises: selecting a chemotactic **peptide** of the formula
B1-(AGVPGLGVG)n-(AGVPGFGVG)m-Y-B2
wherein A is a **peptide** -forming residue of L-alanine; P is a **peptide** -forming residue of L-proline; G is a **peptide** -forming residue of glycine; V is a **peptide** -forming residue of L-valine; F is a **peptide** -forming residue of L-phenylalanine; L is a **peptide** -forming residue of L-leucine; B1 is H or a biocompatible N-terminal group; B2 is OH, OB3, where B3 is a non-toxic metal ion, or a biocompatible C-terminal group; X is GVPGFGVG, GVPGLGVG, VPGFGVG, VPGLGVG, PGFGVG, PGLGVG, GFGVG, GLGVG, FGVG, LGVG, GVG, VG, G or a covalent bond; Y is AGVPGFGV, AGVPGLGV, AGVPGFG, AGVPGLG, AGVPGF, AGVPGL, AGVPG, AGVP, AGV, AG, A or a covalent bond; n is an integer from 0 to 50; m is an integer from 0 5- 50; with the proviso that when both n and m are 0, X and Y are selected so that X and Y together include at least one leucine residue; and with the further proviso that when m is greater than 0, n is at least 1 or X and Y together include at least one leucine residue; incorporating said **peptide** into a layer of a prosthetic device in an amount sufficient to increase the invasion of endothelial cells into said prosthetic device.
Dwg.0/4

Abstract (Equivalent): US 4976734 A

In prosthetic device the surface of the device has incorporated in it, a chemotactic **peptide** of the formula
B1-X-(AGVPGLGVG)n -(AGVPGFGVG)m-Y-B2
where A is a **peptide** -forming residue of L-alanine; P is a **peptide** -forming residue of L-proline; G is a **peptide** -forming residue of glycine; V is a **peptide** -forming residue of L-valine; F is a **peptide** -forming residue of L-phenylalanine; L is a **peptide** -forming residue of L-leucine; B1 is H or a biocompatible N-terminal group; B2 is OH, OB3 where B3 is a non-toxic metal ion, or a biocompatible C-terminal group; X is GVPGFGVG, GVPGLGVG, VPGFGVG, VPGLGVG, PGFGVG, PGLGVG, GFGVG, GLGVG, FGVG, LGVG, GVG, VG, G or a covalent bond; Y is AGVPGFGV, AGVPGLGV, AGVPGFG, AGVPGLG, AGVPGF, AGVPGL, AGVPG, AGVP, AGV, AG, A or a covalent bond; n is 0 to 50; m is 0 to 50; with the proviso that when both n and m are O, X and Y are selected so that the chemotactic **peptide** has at least 3 aminoacid residues in the X and Y positions combined.

Derwent Class: B04; D22; P32; P34
International Patent Class (Main): A61F-002/02
International Patent Class (Additional): A61L-027/00

7/7/7 (Item 7 from file: 350)
DIALOG(R)File 350:Derwent WPIX
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007443792
WPI Acc No: 1988-077726/198811
Bio-elastomer contg. tetra**peptide** or polypenta**peptide** **units** - analogues of elastin **repeating** **units** chosen to shift the transition temp
Patent Assignee: UAB RES FOUND (UABR-N); IMMUNEX CORP (IMMV); UNIV ALABAMA (UYAL-N); URRY D W (URRY-I)
Inventor: PRASAD K U; URRY D W
Number of Countries: 013 Number of Patents: 008
Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week	
WO 8801623	A	19880310	WO 87US2141	A	19870827	198811	B

US 4783523	A	19881108	US 86900895	A	19860827	198847
EP 321496	A	19890628	EP 87905993	A	19870827	198926
JP 1503714	W	19891214	JP 87505482	A	19870827	199005
EP 321496	B1	19940330	EP 87905993	A	19870827	199413
			WO 87US2141	A	19870827	
DE 3789507	G	19940505	DE 3789507	A	19870827	199419
			EP 87905993	A	19870827	
			WO 87US2141	A	19870827	
EP 321496	A4	19900207	EP 87905993	A	19870000	199510
JP 2726420	B2	19980311	JP 87505482	A	19870827	199815
			WO 87US2141	A	19870827	

Priority Applications (No Type Date): US 86900895 A 19860827
Cited Patents: 8.Jnl.Ref; US 4132746; US 4474851; US 4500700; US 4589882
Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
WO 8801623	A	E	109		
Designated States (National): JP					
Designated States (Regional): AT BE CH DE FR GB IT LU NL SE					
US 4783523	A		29		
EP 321496	A	E			
Designated States (Regional): AT BE CH DE FR GB IT LI LU NL SE					
EP 321496	B1	E	48	C07K-013/00	Based on patent WO 8801623
Designated States (Regional): AT BE CH DE FR GB IT LI LU NL SE					
DE 3789507	G			C07K-013/00	Based on patent EP 321496
					Based on patent WO 8801623
JP 2726420	B2		24	C07K-007/06	Previous Publ. patent JP 1503714
					Based on patent WO 8801623

Abstract (Basic): WO 8801623 A

A novel bioelastomer contains elastomeric **units** comprising tetra**peptide** or penta**peptide** **units** or **units** modified by hexa**peptide** **repeating** **units**, where the **repeating** **units** comprise amino acid residues selected from hydrophobic amino acid and glycine residues and where the repating **units** exist in a conformation having a **beta-turn** which comprises a polypenta**peptide** **unit** of formula (I)

-X'-(IPGVG)n-Y'- (I)

(I = a **peptide** -forming residue of L-isoleucine; P = a **peptide** -forming residue of L-proline; G = a **peptide** -forming residue of glycine; V = a **peptide** -forming residue of L-valine; X' = PGVG, GVG, VG, G or a covalent bond; Y' = IPGV, IPG, IP, I or a covalent bond; n = 1-200 or a = 0, with the proviso that X' and Y' together constitute at least one of the pentameric **units** in an amt. sufficient to adjust the development of elastomeric force of the bioelastomer to a predetd. temp.).

USE/ADVANTAGE - By selecting the appropriate combination of polytetra**peptide** and polypenta**peptide** matrices and analogues it is possible to shift the transition temp. of the bioelastomer over a range of about 75 deg. C. The bioelastomers can be used for the prepn. of synthetic vascular **tissue** or vascular prostheses, for the prepn. of high-frequency piezoelectric devices and in the prepn. of surfaces which are radar-absorbing.

Abstract (Equivalent): EP 321496 B

A bioelastomer containing elastomeric **units** comprising tetra**peptide** , or penta**peptide** **repeating** **units** or mixtures thereof optionally also including hexa**peptide** **repeating** **units**, wherein said **repeating** **units** comprise amino acid residues selected from the group consisting of hydrophobic amino acid and glycine residues, wherein said

repeating units exist in a conformation having a **beta-turn** which comprises a polypenta**peptide unit** of the formula: -X1-(IPGVG)n-Y1- wherein I is a **peptide** -forming residue of L-isoleucine; P is a **peptide** -forming residue of L-proline; G is a **peptide** -forming residue of glycine; V is a **peptide** -forming residue of L-valine; and wherein X1 is PGVG, GVG, VG, G or a covalent bond; Y1 is IPGV, IPG, IP, I or a covalent bond; and n is an integer from 1 to 200, or n is O, with th proviso that X1 and Y1 together constitute at least one of said pentameric **unit** in an amount sufficient to adjust the development of elastomeric force of the bioelastomer to a predetermined **temperature**.

Dwg.1/9

Abstract (Equivalent): US 4783523 A

Bioelastomer comprises elastomeric tetra- and/or penta**peptide units**, opt. modified with hexa**peptide units**, contg. hydropobic aminacid and glycyl **units**; such that the **repeating unit** have a **beta**-conformation contg. a polypenta**peptide unit** of formula -X-(IPGVG)n-Y-, where I is L-isoleucyl; P is L-propyl; G is glycyl; V is L-valyl; X is PGVG, GVG, VG or G, or is omitted; Y is IPGV, IPG, IP or I, or is omitted; and n is 0-200, such that at least one penta**peptide unit** is present.

USE - The prods. exhibit controllable elastomeric forces which are temp.-dependent, and are valuable replacements for elastin in vascular walls

Derwent Class: B04; P32; P34
International Patent Class (Main): C07K-007/06; C07K-013/00
International Patent Class (Additional): A61F-002/02; A61F-002/06; A61K-037/00; A61L-027/00; C07K-005/02; C07K-005/103; C07K-005/107; C07K-015/00; C08G-069/10; C08L-101/00; D02G-003/00

7/7/8 (Item 8 from file: 350)
DIALOG(R)File 350:Derwent WPIX
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007280246
WPI Acc No: 1987-277253/198739

Prosthesis surface treated with chemotactic **peptide** - to induce invasion by fibroblasts and incorporation into regenerating **tissue**

Patent Assignee: UNIV ALABAMA (UYAL-N)
Inventor: LONG M M; URRY D W
Number of Countries: 001 Number of Patents: 001
Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week	
US 4693718	A	19870915	US 85793225	A	19851031	198739	B

Priority Applications (No Type Date): US 85793225 A 19851031
Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
US 4693718	A		12		

Abstract (Basic): US 4693718 A

Prosthetic device has a chemotactic **peptide** of formula (I) incorporated into its surface.

B1-X(AGVPGFGVG)n-Y-B2 (I)

A = Ala; P = Pro; G = Gly; V = Val; F = Phe; B1 = H or a biscompatible N-terminal gp.; B2 = OH, OB3 or biscompatible C- terminal gp. B3 = Non-toxic metal ion; X = GVPGFGVG; VPGFGVG; PGFGVG; GFGVG; FGVG; GVG; VG; G or a covalent bond; Y = AGVPGFGV; AGVPGFG; AGVPGF; AGVPG; AGVP; AGV; AG; A or a covalent bond; n = 100.

USE/ADVANTAGE - The presence of (I) promotes invasion of the

prosthesis by fibroblasts capable of synthesising elastic fibres, so induces incorporation of the device into the regenerating natural **tissue** (esp. skin or blood vessel walls). (I) are more active chemotactic agents than previous known synthetic cpds. and equiv. to the natural cpd. platelet-derived growth factor.

0/4

Derwent Class: B04; D22; P32
International Patent Class (Additional): A01N-001/02; A61F-002/02

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File 155:MEDLINE(R) 1951-2004/Dec W1
File   5:Biosis Previews(R) 1969-2004/Dec W3
File  73:EMBASE 1974-2004/Dec W4
File  34:SciSearch(R) Cited Ref Sci 1990-2004/Dec W4
File 434:SciSearch(R) Cited Ref Sci 1974-1989/Dec
File  71:ELSEVIER BIOBASE 1994-2005/Dec W4
File 315:ChemEng & Biotec Abs 1970-2004/Dec
File 357:Derwent Biotech Res. _1982-2004/Dec W4
File 358:Current BioTech Abs 1983-2004/Dec
Set     Items   Description
S1       1065   AU='URRY D' OR AU='URRY D W' OR AU='URRY D.W.' OR AU='URRY
            DAN' OR AU='URRY DAN W' OR AU='URRY DW'
S2          8   AU='URRY, D.W.'
S3       1073   S1:S2
S4        588   RD (unique items)
S5     129927   TISSUE? ? (S)(REGENERAT? OR AUGMENT? OR RESTOR?)
S6    1623472   INJECT?
S7          3   S4 AND S5
S8          2   S4 AND S6
S9          3   S7:S8
S10         3   RD (unique items)
S11         9   (S1 AND S5:S6) NOT S9
S12         4   RD (unique items)
S13       159   REPEATING()PEPTIDE? ?
S14        19   S1 AND S13
S15     32924   NONAPEPTIDE? OR PENTAPEPTIDE? OR TETRAPEPTIDE? OR POLYTETR-
            APEPTIDE? OR POLYPENTAPEPTIDE?
S16       274   S1 AND S15
S17   4097646   TISSUE?
S18        17   (S14 OR S16) AND S17
S19        14   S18 NOT (S9 OR S11)
S20         9   RD (unique items)
S21         9   Sort S20/ALL/PY,A

10/7/1     (Item 1 from file: 155)
DIALOG(R)File 155:MEDLINE(R)
(c) format only 2004 The Dialog Corp. All rts. reserv.
14361780   PMID: 10354563
  Elastic molecular machines in metabolism and soft- tissue  restoration .
   Urry D W
  University of Minnesota, Twin Cities Campus, Department of Chemical
Engineering and Materials Science, 421 Washington Avenue SE, Minneapolis,
MN 55455-0132, USA. danurry@cems.umn.edu
  Trends in biotechnology (ENGLAND)  Jun 1999, 17 (6) p249-57, ISSN
0167-7799   Journal Code: 8310903
  Contract/Grant No.: R43 HD-34659; HD; NICHD
  Document type: Journal Article; Review; Review, Tutorial
  Languages: ENGLISH
  Main Citation Owner: NLM
  Record type: Completed
  Elastic protein-based machines (bioelastic materials) can be designed to
perform diverse biological energy conversions. Coupled with the remarkable
energy-conversion capacity of cells, this makes possible a tissue -
 restoration approach to tissue engineering. When properly attached to
the extracellular matrix, cells sense the forces to which they are
subjected and respond by producing an extracellular matrix that will
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withstand those forces. Elastic **protein**-based **polymers** can be designed as temporary functional scaffoldings that cells can enter, attach to, spread, sense forces and remodel, with the potential to **restore** natural **tissue** . (31 Refs.)
Record Date Created: 19990629
Record Date Completed: 19990629

10/7/2 (Item 2 from file: 155)
DIALOG(R)File 155:MEDLINE(R)
(c) format only 2004 The Dialog Corp. All rts. reserv.
14107217 PMID: 9806444
Elastic **protein**-based **polymers** in soft **tissue** **augmentation** and generation.
Urry D W ; Pattanaik A; Xu J; Woods T C; McPherson D T; Parker T M
Bioelastic Research, Ltd., OADI Technology Center, Birmingham, AL 35211-6912, USA.
Journal of biomaterials science. **Polymer** edition (NETHERLANDS) 1998, 9 (10) p1015-48, ISSN 0920-5063 Journal Code: 9007393
Contract/Grant No.: 1 R43 HD34659-01; HD; NICHD
Document type: Journal Article
Languages: ENGLISH
Main Citation Owner: NLM
Record type: Completed
Five elastic **protein**-based **polymers**, designed as variations of **polymer** I, (GVGVP)251, elicited different responses when **injected** as subcutaneous **implants** in the guinea pig, a preclinical test used to evaluate materials for soft **tissue** **augmentation** and specifically for correction of urinary incontinence. All six **polymers**, prepared using recombinant DNA technology, expressed at good levels using transformed E. coli fermentation. These E. coli-produced **polymers** were purified for the first time to the exacting levels required for use as biomaterials where a large quantity could disperse into the **tissues** in a few days. Time periods of 2 and 4 weeks were used. **Polymer** I functioned as a bulking agent around which a fine fibrous capsule formed. Inclusion of (GVGVAP)8, a chemoattractant toward monocytes and elastin-synthesizing fibroblasts in the sequence of **polymer** I, resulted in an appropriate **tissue** response of invasion of macrophages. Inclusion of lysine residues, for lysyl oxidase cross-linking, suggested a possible remodeling of the **implant** toward fibers. Most promising however, when the cell attachment sequence, GRGDSP, was added to **polymer** I, the **implant** elicited **tissue** generation with a normal complement of collagen and elastic fibers, spindle-shaped histiocytes and angiogenesis. If this response is retained over time, the desired soft **tissue** **augmentation** and generation will have been achieved. Our working hypothesis is that on formation of elastin, with a half-life of the order of 70 years, a long lasting soft **tissue** **augmentation** would result rather than scar **tissue** as occurs with Contigen, the currently approved **injectable** **implant** for soft **tissue** **augmentation** .
Record Date Created: 19981229
Record Date Completed: 19981229

10/7/3 (Item 1 from file: 5)
DIALOG(R)File 5:Biosis Previews(R)
(c) 2004 BIOSIS. All rts. reserv.
0014235640 BIOSIS NO.: 200300194359
Injectable **implants** for **tissue** **augmentation** and **restoration**
AUTHOR: Urry Dan W (Reprint); Parker Timothy M; Glazer Paul A